

Random Activation of Gene Expression (RAGE)

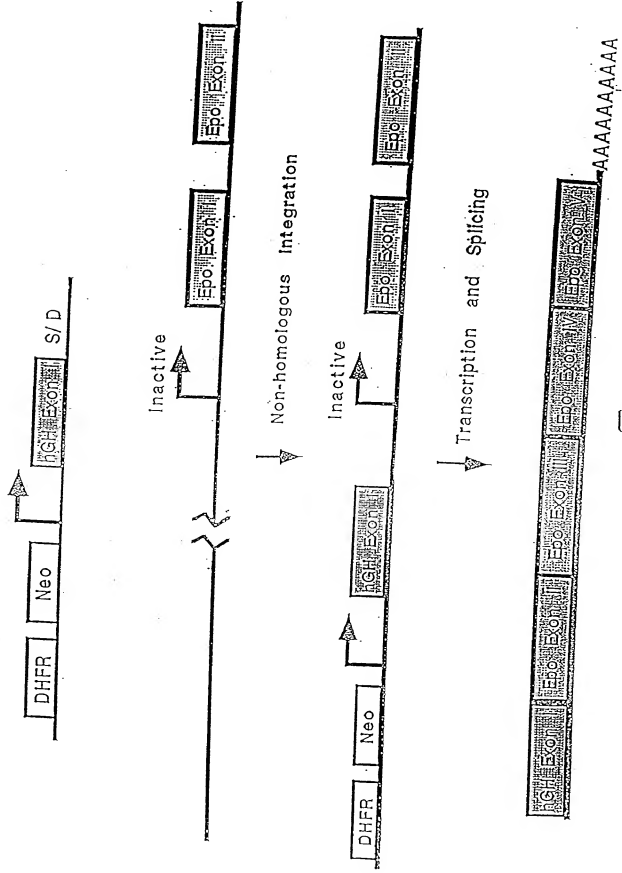


FIGURE 1

Activation Constructs without Translation Start Codons

Construct #



Untranslated

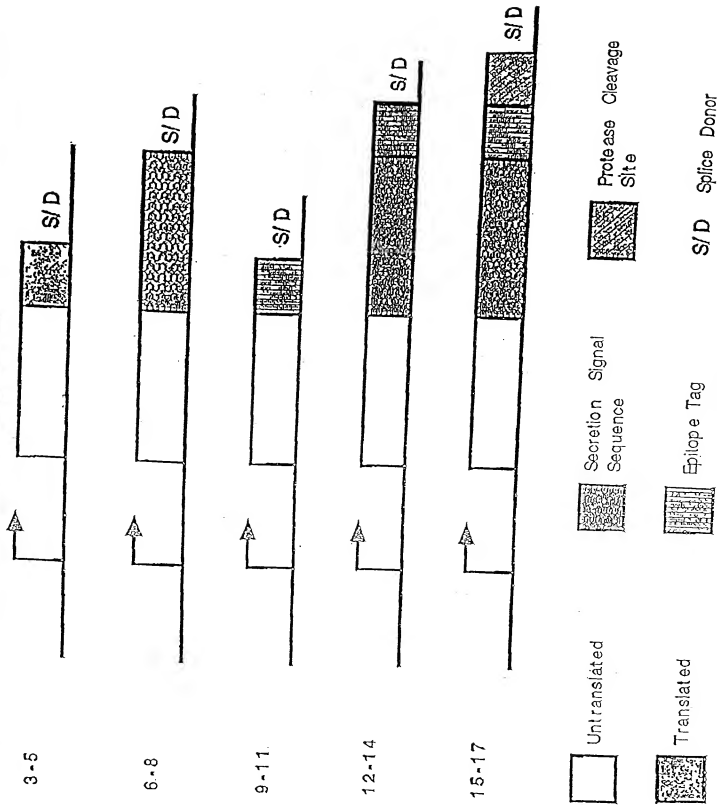
S/D Splice Donor

Fig. 2

Construct #

009220-466E1560

Fig. 3



000220-2661560

pRIG-1

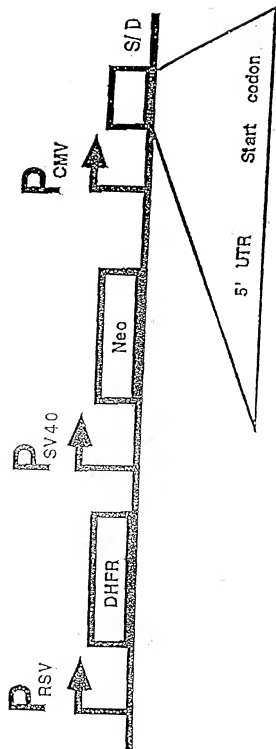


FIG. 4

5'AGATCTTCAATATTGGCCATTAGCCATATTATTCATTGGTTATATAGCATAAAATC
 AATATTGGCTATTGGCCATTGCATA
 CGTTGTATCTATATCATATAATGTACATTTATATTGGCTCATGTCCAATATGACCG
 CCATGTTGGCATTGATTATTGACT
 AGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATATATGGAGT
 TCCGCGTTACATAACTTACGGTAAA
 TGGCCCCGCTGGCTGACCGCCCAACGACCCCCGCCATTGACGTCAATAATGACG
 TATGTTCCCATAGTAACGCCAATAG
 GGACTTTCATTGACGTCAATGGGTGGAGTATTTAOGGTAAACTGCCCACTTGGC
 AGTACATCAAGTGTATCATATGCCA
 AGTCCGCCCCCTATTGACGTCAATGACGGTAAATGGCCCGCCTGGCATTATGCC
 AGTACATGACCTTACGGGACTTTCC
 TACTTGGCAGTACATCTACGTATTAGTTCATCGCTATTACCATGGTGATGCGGTTTT
 GGCAGTACACCAATGGGCGTGGAT
 AGCGGTTTGACTACCGGGATTTCCAAAGTCTCCACCCCATGACGTCAATGGGAG
 TTTGTTTTGGCACCAAAATCAACGG
 GACTTTCCAAATGTCTGTAACAACTGCGATCGCCCGCCCGTTGACGCAAAATGGG
 CGGTAGGCGGTGACGGTGGGAGGTC
 TATATAAGCAGAGCTCGTTTGTGTAACCGTCAGATCACTAGAAGCTTTATTGCGG
 TAGTTTATCACAGTTAAATTGCTAA
 CGCAGTCAGTGCTTCTGACACAACAGTCTCGAACTTAAAGTGCAGTACTCTCTT
 AATTAACCTCCACCACTCACTCA
 GTTCCTTTTGCTCCACCACTCTCAGTTCAGTTCCTTTTGATGAAGAGCTCAGAA
 TCAAAAGAGGAAACCAACCCCTAA
 GATGAGCTTTCATGTAAATTTGTAGCCAGTTCCTTCTGATTTTCAATGTTTCTT
 CCAAAGGTGCAGTCTCCAAAGAGA
 TTACGAATGCCTTGAAACCTGGGGTGCCTTGGGTGAGGACATCAACTTGGACAT
 TCCTAGTTTTCAAATGAGTGATGAT
 ATTGACGATATAAAATGGGAAAAAACTTCAGACAAGAAAAAGATTGCACAATTCA
 GAAAAGAGAAAAGAGACTTTCAAGGA
 AAAAGATACATATAAGCTATTAAAAATGGAACCTGAAAAATTAAGCATCTGAAG
 ACCGATGATCAGGATATCTACAAGG
 TATCAATATATGATACAAAAGGAAAAAATGTGTTGGAAAAAATATTTGATTGAA
 GATTCAAGAGAGGGTCTCAAAACCA
 AAGATCTCTGGACTTGTATCAACACAACCTGACCTGTGAGGTAATGAATGGAA
 CTGACCCCGAATTAAACCTGTATCA
 AGATGGGAAACATCTAAAACTTTCTCAGAGGGTCATCACACACAAGTGGACCACC
 AGCCTGAGTGCAAAATTCAAAGTGA
 CAGCAGGGAACAAAGTCAGCAAGGAATCCAGTGTGAGCCTGTGAGCTGTCCAG
 AGAAAGGGATCCAGGTGATAGGGCC
 CGATCCTTCTAGAGTCGAGCTCTCTTAAGGTAGCAAGGTTACAAGACAGGTTAA
 GGAGACCAATAGAACTGGGCTTGT
 CGAGACAGAGAAGACTTGTGCTTCTGATAGGCACCTATTGGTCTTACGCGGCC
 CGGAATTCCAAGCTTGAGTATTCTA
 TCGTGTACCTAAATACTTGGCGTAATCATGTGTCATATCTGTTCTGTGTGAA
 ATTGTTATCCGCTCACAATTCCACA
 CAACATACGAGCCGGAAGCATAAAGTGTAAAGCCTGGGGTGCCTAATGAGTGAG
 CTAACCTACATTAATTGCGTTGCGGATGCTTCCATTTTGTGAGGGTTAATGC-

Figure 5A

TTCCGAGAAGACATGATAAAGATCAATTGATGAGTTTGGACAAACCAACAAGAAT
GCAGTGAAAAAATGCTTTATTTTGTGAAATTTGTGATGCTATTGCTTTATTGTAA
CCATTATAAGCTGCAATTAACA
AGTTAACAAACAACAAATGCTATTCTTTATGTTTCAGGTTTCAGGGGGAGATGTGG
GAGGTTTTTTTAAAGCAATGATAAAACC
TTCACAAATGTGGTAAAAATCCGATAAGGATCGATTCCGGAGCCTGAATGGCGAAT
GGACGGCGCCTGTAGCGGGCGCATTA
AGCGCGCGGGTGTGGTGGTTACGGCGACGTGACCGCTACACTTGCCAGCGCCC
TAGCGCCCGCTCTCTTTGCTTTCTTC
CCTTCCTTTCTCGCCACGTTGCGCGGCTTTCCCGTCAAGCTCTAAATCGGGGGC
TCCCTTTAGGGTTCCGATTAGTGC
TTTACGGCACCTCGAGCCCCAAAAAACCTGATTAGGGTGATGGTTACGTTAGTGGG
CCATCGCCCTGTATAGACGTTTTC
GCCCTTTGACGTTGGAAGTCCAGTCTTTTAATAGTGGACTCTGTTCCAAACTGG
AACAAACCTCAACCCATATCTCGGTC
TATTCTTTTGATTTTATAAGGATTTTGGCGATTTCGGCCTATTGGTTAAAAAATGA
GCTGATTTTAAACAAAAATTTAACG
GAATTTTAAACAAATATTTAACGCTTACAATTTGCGCTGTGTACCTTCTGAGCGG
AAGAAGACAGCTGTGGAATGTGTGT
CAGTTAGGGGTGTGGAAGTCCCCAGCGCTCCCGACGAGGCAGAAGTATGCAAAGC
ATGCATCTCAATTAGTCAGCAACCAG
GTGTGGAAAGTCCCAGGCTCCCGACGAGGCAGAGAAGTATGCAAAGCATGCATCT
CAATTAGTCAGCAACCATAGTCCGC
CCCTAACTCCGCCCATCCCGCCCTAACTCCGCCCAGTTCGCCCATTTCTCCGC
CCATGGCTGACTAATTTTTTTT
TGTGCAGAGGCCGAGGCCGCTCGGCCCTGAGCTATTCCAGAAGTAGTGAGGA
GGCTTTTTTTGGAGGCCCTAGGCTTTTT
CAAAAAGCTTGATTCTTGTACACAACAGCTTCGAACTTAAGGCTAGAGCCACCA
TGATTGAACAAGATGGATTGCACGC
AGGTTCTCGGCGCTTTGGGTGGAGGAGCTATTGGCTATGACTGGGCACAACAG
ACAATCGGCTGCTGTGATGCCCGC
TGTTCCGGCTGTACGCGCAGGGGCGCCCGTTCTTTTGTCAAGACCGACCTGT
CGGTGGCCTGAATGACTGCAGGAC
GAGGCAGCGCGCTATCGTGGCTGGCCACGACGGCGTTCTTTGCGCAGCTGTG
CTCGACGTTGTCACTGAAGCGGGAAG
GGACTGGCTGCTATTGGGCGAAGTCCGGGGCAGGATCTCTGTCTATCCACTT
GCTCTGCCGAGAAAGTATCCATC
TGCTGTATGCAATCGCGCGCTGCATACGCTTGATCCGGCTACCTGCCCATTCGA
CCACAAGCGAAACATCGATCGAG
CGAGCAGTACTCGGATGGAAGCCGGTCTTGTGATCAGGATGATCTGGACGAA
GAGCATCAGGGGCTCGCGCCAGCCGA
ACTGTTCCGCAAGCTCAAAGCGCGCATGCCGACGGCGAGATCTCTGCTGTGAC
CCATGGCGATGCCGTGCTTGGCGAATA
TCATGTTGGAAAAATGGCCGCTTTCTGTGGATTCGACTGTGGCCGGCTGGGTGT
GGCGGACCGCTATCAGGACATAGCG
TTGGCTACCCGCTATATTGCTGAAGAGCTTGGCGGCAATGGGCTGACCGCTTCC
TCGTGTTTACGTTATCGGCTCCGCTCC
CGATTCCGACGCTATCGCTTCTACGCTTCTTGACGAGTCTTCTGAGCGGGA
CTCTGGGGTTCGAAATGACCGACCAAGCGACGCCCAACCTGCCATCAGATGGC

Figure 5B

CGCAATAAAATATCTTTATTTTCATTACATCTGTGTGTGGTTTTTGTGTGAAGA.
 TCOCGCTA-
 TGGTGCACTCTCAGTACAATCTGCTCTGATGCCGCATAGTTAAGCCAGCCCCGAC
 ACCCGCCAAACAC
 CCGCTGACGCGCCCTGACGGGCTTGCTGCTCCCGGCATCCGCTTACAGACAAGC
 TGTGACCGTCTCCGGGAGCTGCATG
 TGTGAGAGGTTTTACCGGTCATCACCGAAACGCGCGAGACGAAAGGGCCTCGTGA
 TACGCCCTATTTTTATAGGTTAATGT
 CATGATAAATAATGGTTTTCTTAGACGTCAGGTGGCACTTTTCGGGGAAATGTGCGC
 GGAACCCCTATTTGTTTATTTTCT
 AAATACATTCAAATATGTATCCGCTCATGAGACAATAACCCGTGATAAATGCTTCA
 ATAATATTGAAAAAGGAAGAGTATG
 AGTATTCAACATTTCCGTGTGCGCCTTATTCCTTTTTTTCGGGCATTTTGCCCTTCC.
 TGTTTTGTCTCACCCAGAAACGCT
 GGTGAAAGTAAAGATGCTGAAGATCAGTTGGGTGCACGAGTGGGTTACATCGA
 ACTGGATCTCAACAGCGGTAAGATCC
 TTGAGAGTTTTGCCCCGAAGAACGTTTTCCAATGATGAGCACITTTAAAGTTCT
 GCTATTGTGGCGCGGTATTATCCCGT
 ATTGACGCCCGGGCAAGAGCAACTCGGTGCGGCATACACTATTCTCAGAATGACT
 TGGTTGAGTACTCACCGATCAGATAAGAGAATTATGCACTGCTGCCATAACC
 AAAGCATCTTACCGATGGCATGACAGTAAGAGAAATTATGCACTGCTGCCATAACC
 ATGAGTGATAACACTGCGGCCAACT
 TACTTCTGACAACGATCGGAGGACCGAAGGAGCTAACCCTTTTTTGCACAACAT
 GGGGGATCATGTAACCTGCGCTTGAT
 CGTTGGGAACCGGAGCTGAATGAAGCCATACCAAACGACGAGCGTGACACCACG
 ATGCCGTAGCAATGGCAACAACGTT
 GCGCAAACTATTAACTGGCGAACTACTTACTCTAGCTTCCCGGCAACAATTAATA
 GACTGGATGGAGGCGGATAAAGTTG
 CAGGACCACTTCTGCGCTCGGCCCTCCGGCTGGCTGGTTATTGCTGATAAATC
 TGGAGCCGGTGAGCGTGGGTCTCGC
 GGTATCATTGCACTGCGGCGCAGATGGTAAGCCCTCCCGTATCGTAGTTATCT
 ACACGACGGGGAGTCAGGCAACTAT
 GGATGAACGAAATAGACAGATCGCTGAGATAGGTGCCTCACTGATTAAGCATTGG
 TAACTGTCAGACCAAGTTTACTCAT
 ATATACTTTAGATTGATTTAAAACTTCATTTTTAATTTAAAGGATCTAGGTGAAG
 ATCCTTTTTTGATAATCTCATGACC
 AAAATCCCTTAAACGTGAGTTTTCTGTTCCACTGAGCGTCAGACCCCGTAGAAAAGA
 TCAAAGGATCTTCTTGAGATCCITT
 TTTTCTGCGCGTAAATCTGCTGTGCAAAACAAAAAACCCGCTACCAGCGGTG
 GTTTGTTTGCAGGATCAAGAGCTAC
 CAACTCTTTTTCCGAAGGTAACCTGGCTTCAGCAGAGCGCAGATACCAAATACTGT
 CTTCTAGTGTAGCCGTAGTTAGGC
 CACCACCTCAAGAACTCTGTAGCACCGCTACATACCTCGCTCTGCTAATCTCTGT
 TACCAGTGGCTGCTGCCAGTGGCGA
 TAAGTCGTGCTTACCGGGTTGAGCTCAAGACGATAGTTACCGGATAAGGCGCAG
 CGGTGCGGCTGAACGGGGGTTCTG
 GCACACAGCCCGCTTGGAGCGAACGACCTACACCGAACTGAGATACCTACAGC
 GTGAGCTATGAGAAAGCGCCACGCTT
 CCCGAAGGGAGAAAGGCGGACAGGTATCCGGTAAGCGGCAGGGTCGGAACAGG-

Figure 5C

AGAGCGCACGAGGGAGGTTCCAGGGGGAAAACGCCTGGTATCTTTATAGTCCTGTC
GGGTTTCGCCACCTCTGACTTGAGCGTCGATTTTTGTGATGCTCGTCAGGGG
GGCGGAGCCTATGGAAAAACGCCAGCAAACGCGGCCTTTTACGGTTCTGGCCTT
TTGCTGGCCTTTTGCTCACATGGCT
CGAC3'

009220-2667560

Figure 5D

SAGATCTTCAATATTGGCCATTAGCCATATTATTCATTGGTTATATAGCATAAATC
 AATATTGGCTATTGGCCATTGCAT
 ACGTTGTATCTATATCATAATATGTACATTATATTGGCTCATGTCCAATATGACC
 GCCATGTTGGCATTGATTATTGAC
 TAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATATATGGAG
 TTCGGCGTTACATAACTTACGGTAA
 ATGGCCCGCCTGGCTGACCGCCCAACGACCCCGCCCATTTAGCGTCAATAATGAC
 GTATGTTCCCATAGTAACGCCAATA
 GGGACTTTCCATTGTACGTCAATGGGGTGGAGTATTTACGGTAAACTGCCCACTTGG
 CAGTACATCAAGTGTATCATATGCC
 AAGTCCGCCCCCTATTGACGTCAATGACGGTAAATGGCCCGCTGGCATTATGCC
 CAGTACATGACCTTACGGGACTTTC
 CTACTTGGCAGTACATCTACGTATTAGTCATCGCTATTACCATGGTGATGCGGTT
 TTGGCAGTACACCAATGGGCGTGGA
 TAGCGGTTTGACTCAGGGGATTTCGAAGTCTCCACCCCATTTAGCGTCAATGGGA
 GTTGTGTTTGGCACAAAATCAACG
 GGACTTTCCAAAATGTGCTAACAACTGCGATCGCCCGCCCGCTTGACGCAAAATGG
 GCGGTAGGCGTGTACGGTGGGAGGT
 CTATATAAGCAGAGCTCGTTTAGTGAACCGTCAGATCACTAGAAGCTTTATTGGC
 GTAGTTTATCACAGTTAAATTGCTA
 ACGCAGTCAAGTGTCTGACACAACAGTCTCGAACTTAAGCTGCAGTGACTCTCT
 TAATTAACCTCCACAGTCTCACTTC
 AGTTCCTTTTGCTCCACAGTCTCACTTCACTTCCTTTTGATGAAGAGCTCAGA
 ATCAAAAGAGGAAACCAACCCCTA
 AGATGAGCTTTCCATGTAAATTGTAGCCAGCTTCCTTCTGATTTTCAATGTTTCT
 TCCAAAGGTGCAGTCTCCAAAGAG
 ATTACGAATGCCCTTGGAAACCTGGGGTGCCCTTGGGTCAGGACATCAACTTGGACA
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 TATTGACGATATAAAATGGGAAAAAACTTCAGACAAGAAAAAGATTGCACAATTC
 AGAAAAAGAGAAAGAGACTTTCAAGG
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 AGATTCAAGAGAGGGTCTCAAAACC
 AAAGATCTCCTGGACTGTATCAACACAACCCCTGACCTGTGAGGTAATGAATGGA
 ACTGACCCCGAATTAACCTGTATC
 AAGATGGGAAACATCTAAAACCTTTCTCAGAGGGTCATCACACACAAGTGACCAC
 CAGCCTGAGTGCAAAATTCAAGTGC
 ACAGCAGGGAACAAAGTCAGCAAGGAATCCAGTGTGAGCCTGTGAGCTGTCCA
 GAGAAAGGGATCCAGGTGAGTAGGG
 CCCGATCCTTCTAGAGTCGAGCTCTCTTAAGGTAGCAAGGTTACAAGACAGGTTT
 AAGGAGACCAATAGAAACTGGGCTT
 GTGAGACAGAGAAGACTCTTGCGTTTCTGATAGGCACCTATTGGTCTTACGCGG
 CCGCGAATTCCAAGCTTGAGTATTC
 TATCGTGTACCTAAATAACTTGGCGTAATCATGGTCATATCTGTTTCTGTGTGA
 AATTGTTATCCGCTCACAATTCCA
 CACAACATACGAGCCGGAAGCATAAAGTGTAAGCCTGGGGTGCCATAATGAGTG
 AGCTAACTCACAATTAATGCGTTGGC
 CGATGCTTCCATTTTGTGAGGGTTAATGCTTCGAGAAGACATGATAAGATACATT
 GATGAGTTTGGACAACCAACAAGAATGCAGTGAAAAAATGCTTTATTGTT

Figure 6A

GAAATTGTGATGCTGATTTGCTTTATTTGTAACCTTATAAGCTTCAAAATAAA
 CCAAGTTAAACAAACAATTCGATTTCATTTTATGTTTCAGGTTCCAGGGGACATGT
 GAGGAGGTTTAAAAAGCAAGTAAAAA
 CCTCTACAAATGTGGTGTAAAAATCCGATAAGGATCGATTCCGGAGCGCTGAATGGCGA
 ATGGACGCGCCCTGTATGCGGCGCAT
 TAAGCGCGGGCGGTGTGGTGTATACGCGCACGTGACCGCTACACTTGGCAGCGC
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 TCCCTTCCTTTCTCGCCACGTTTCGCGGCTTTCGCCGTCAAGCTCTAAATCGGGG
 GCTCCCTTTAGGGTTCCGATTGAT
 GCTTTACGGGCACTCGACCCCAAAAACTTGATTAGGGTGATGGTTCACGTAGTG
 GGCCATCGCCCTGATAGACGGTTTT
 TGCCCTTTGACGTTGGAGTCCACGTTCTTTAATAGTGGACTCTGTGTCCAAACTG
 GAACAACACTCAACCCATATCTCGG
 TCTATTCTTTGATTTATAAGGATTTTCCGATTTCGGCCTATTGGTTAAAAAAT
 GAGCTGATTTAAACAAAAATTTAAC
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 CTCGAATTAGTCAGCAACCATAGTCCC
 GCCCCTAACTCCGCCATCCCGCCCTAACTCCGCCGATTCCGCCCATTTCTCCG
 CCCCATGGCTGACTAATTTTTTTA
 TTTATGCAAGGCGGAGCGCGCTCGGCCCTGAGCTATTCCAGAAGTAGTGAGG
 AGGCTTTTTGGAGGCTTAGGCTT
 TGCAAAAAGCTTGATTCTTCGACACAACAGTCTCGAACTTAAGGCTAGAGCCAC
 CATGATTGAACAAGATGGATTGCAC
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 ACGAGGACGCGCGGCTATCGTGCGTGGCCACGACGGGCGTTCCTTGCGCAGCTG
 TGCTCGACGTTGTCTACTGAAGCGGGA
 AGGCACTGGGCTGCTATTGGGCGAAGTGCCGGGGCAGGATCTCCTGTCTATCTCAC
 TTGCTCTCGCGGAGAAAGTATCCAT
 CATGGCTGATGCAATGCGGCGGCTGCATACGCTTGATCCGGCTACCTGCCCATTC
 GACCAACAAGCGAAACATCGCATCG
 AGCGAGCACGTACTCGGATGGAAGCCGGTCTTGTGATCAGGATGATCTGGAGC
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 ACCCATGGCGATGCGCTGCTGTCCGGA
 TATCATGGTGGAAAAATGGCGGCTTTTCTGGATTTCGACTGTGGCCGGGCTGGGT
 GTGGCGGACGCTATCAGGACATAGCGTTGGCTACCCGTGATTTGCTGAAGAGC
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 CCGGATTCGCGAGCGATCGCCTTCTATCGCCTTCTTGACGAGTCTTCTGAGCGG
 GACTCTGGGGTTGAAATGACCGAC
 CAAGCGACGCCCAACTGCCATCACGATGGCCGCAATAAAATATCTTTATTTTCA
 TTACATCTGTGTGTGGTTTTTGT
 GTGAAGATCCGCGTATGGTGCACTCTCAGTACAATCTGCTCTGATGCCGCATAGT
 TAAGCCAGCCCCGACACCCGCCAACCCGCTGACGCGCCCTGACGGGCT

Figure 6B

TGTCTGCTCCCGGCATCCCGCTTACAGACAAGCTGTGACCGTCTCCGGGAGCTGCA
 TGTGTACAGAGGTTTTTCACCGTCATCACGAAACGCGGAGACGAAAGGGCCTCGT
 GATACGCCTATTATTTATAGGTTAA
 GTCATGATAATAATGGTTTCTTAGACGTCAGGTGGCAGCTTTTCGGGGAAATGTGC
 GCGGAACCCCTATTGTTTTATTTT
 CTAATAACATTCAAATATGTATCCGCTCATGAGACAATAACCTGATAAATGCTT
 CAATAATATTGAAAAAGGAAGATA
 TGAGTATTCAACATTTCCGTGTGCGCCCTTATTCCTTTTTTTGCGGCATTTGCGCTT
 CCTGTTTTTGTCTACCCAGAAACG
 CTGGTGAAAGTAAAGATGCTGAAGATCAGTTGGGTGCAAGAGTGGGTACATC
 GAAGTGGATCTCAACAGCGGTAAGAT
 CCTTGAGAGTTTTTCGCCCCGAAGAAGCTTTTCCAATGATGAGCACITTTAAAGTT
 CTGCTATGTGGCGCGGTATTATCCC
 GTATTGACGCGCGGCAAGAGCAACTCGGTGCGCGCATACACTATTCTCAGAATGA
 CTTGGTTGAGTACTACCACTGACACA
 GAAAAGCATCTTACGGATGGGATGACAGTAAGAGAATTATGCAGTGTGCGCAATA
 CCATGAGTGATAACACTGCGGCCAA
 CTTACTTCTGACAACGATCGGAGGACCGAAGGAGCTAACCGCTTTTTTGCACAAAC
 ATGGGGGATCATGTAACCTCGCCTTG
 ATCGTTGGGAACCGGAGCTGAATGAAGCCATACCAACGACGAGCGTGACACCA
 CGATGCGCTGTAGCAATGGCAACAACG
 TTGCGCAAACTATTAACTGGCGAACTACTTACTCTAGCTTCCCGGCAACAATTAA
 TAGACTGGATGGAGCGGATAAAGT
 TGCAAGACCACTTCTGCGCTCGGCCCTTCCGGCTGGCTGGTTTATTGCTGATAAA
 TCTGGAGCCGGTGAGCGTGGGTCTC
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 ATGGATGAACGAAATAGACAGATCGCTGAGATAGGTGCGCTCACTGATTAAAGCATT
 GGTAACGTGACAGCAAGTTTACTC
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 TGGTTGTTTGCAGGATCAAGAGCT
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 GTTACCACTGGCTGTGCGAGTGGCGATAAGTCTGTCTTACCGGGTTGGACTCA
 AGACGATAGTTACCGGATAAGGCGCAGCGGTGCGGCTGAACGGGGGTTT
 GTGCACACAGCCAGCTTGGAGCGAACGACCTACACCGAACTGAGATACCTACA
 GCGTGAGCTATGAGAAAGCGCCACGC
 TTTCCGAAGGGAGAAAGGCGGACAGGTATCCGGTAAGCGGACGGGTGCGGAACAG
 GAGAGCGCACAGAGGAGCTTCACGGG
 GGAAACGCTGGTATCTTTATAGTCTGCGGTTTTGCCACCTCTGACTTGAGC
 GTCGATTTTTGTGATGCTCGTCAGG
 GGGGCGGAGCCTATGGAAAAACGCCAGCAACGCGGCTTTTTACGGTTCTGGC
 CTTTGTGCGCCTTTTGCTCACATGG
 CTCGAC3'

Figure 6C

00513997.02600

SAGATCTTCAATATTGGCCATTAGCCATATTATTCATTGGTTATATAGCATAAATC
AATATTGGCTATTGGCCATTGCA
ACGTTGTATCTATATCATAAATATGTACATTATATTGGCTCATGTCCAATATGACC
GCCATGTTGGCATTGATTATTGAC
TAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATATATGGAG
TTCCGCGTTACATAAATTACGGTAA
ATGGCCCGCCTGGCTGACCGCCCAACGACCCCCGCCCATTGACGTCATAATGAC
GTATGTTCCCATAGTAACGCCAATA
GGGACTTTCCATTGACGTCATGGGTGGAGTATTACGGTAAACTGCCCACTTGG
CAGTACATCAAGTGTATCATATGOC
AAGTCCGCCCCCTATTGACGTCATGACGGTAAATGGCCCGCCTGGCATTATGCC
CAGTACATGACCTTACGGGACTTTC
CTACTTGGCAGTACATCTACGTATTAGTTCATCGCTATTACCATGGTGATGCGGTT
TTGGCAGTACACCAATGGGCGTGGA
TAGCGGTTTGACTCACGGGATTTCAGTCTCCACCCCATTGACGTCATGGGA
GTTTGTGTTTGGCACCAAAATCAACG
GGACTTTCCAAAATGTGTAACAACTGCGATCGCCCGCCCCGTTGACGCAATGG
GCGGTAGGCGTGTACGGTGGGAGT
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GTAGTTTATCACAGTTAAATTGCTA
ACGCACTCAGTGTCTCTGACACAACAGTCTCGAACTTAAGCTGCAGTGACTCTCT
TAATTAACCTCCACCAGTCTCACTTC
AGTTCTTTTGGCCTCCACCAGTCTCACTTCAGTTCCTTTTGATGAAGAGCTCAGA
ATCAAAGAGGAAACCAACCCCTA
AGATGAGCTTTCCATGTAAATTTGTAGCCAGCTTCCTTCTGATTTTCAATGTTTCT
TCCAAAGGTGCAGTCTCCAAAGAG
ATTACGAATGCCTTGGAAACCTGGGGTGCTTGGGTGAGACATCAACTTGGACA
TTCTAGTTTTCAAATGAGTGATGA
TATTGACGATATAAAATGGGAAAAAACTTCAGACAAGAAAAAGATTGCACAATTC
AGAAAAGAGAAAGAGACTTTCAAGG
AAAAAGATACATATAAGCTATTAAAAATGGAACCTGAAAAATTAAGCATCTGAA
GACCGATGATCAGGATATCTACAAG
GTATCAATATATGATACAAAAGGAAAAATGTGTTGGAAAAATATTTGATTGTA
AGATTCAAGAGAGGGTCTCAAAACC
AAAGATCTCCTGGACTTGTATCAACACAACCCCTGACCTGTGAGGTAATGAATGGA
ACTGACCCCGAATTAACCTGTATC
AAGATGGGAAACATCTAAAACTTTCTCAGAGGGTCATCACACAAGTGGACCAC
CAGCCTGAGTGCAAAATCAAGTGC
ACAGCAGGGAACAAAGTCAGCAAGGAATCCAGTGTGAGGCTGTGAGCTGTCCA
GAGAAAGGGATCCACAGGTGAGTAGG
GCCGATCTCTTAGAGTCGAGCTCTTAAGGTAGCAAGGTTACAAGACAGGTT
TAAGGAGACCAATAGAACTGGGT
TGTGAGACAGAGAAGACTCTTGCGTTTCTGATAGGCACCTATTGGTCTTACGCG
GCCGCGAATTCCAAGCTTGAGTATT
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AAATTTGTTATCCGCTCACAATTCC
ACACAACATACGAGCCGGAAGCATAAAGTGAAGCCCTGGGGTGCCTAATGAGT
GAGCTAACTCACTTAATTTGCGTTG
GCGATGCTTCCATTTTGTGAGGGTTAATGCTTCGAGAAGACATGATAAGATACAT
TGATGAGTTTGGACAAACCAACAAGAATGCAGTGAAAAAATGC-

Figure 7A

009220-025600

TTTATTGTGAAATTGTGATG
CTATTGCTTTATTGTAAACCATTATAAGCTGCAATAA
ACAAGTTAAACAACAACAATTGCAATTCATTTTATGTTCAGGTTTCAGGGGGAGATG
TGGGAGGTTTTTTTAAAGCAAGTAAA
ACCTCTACAAATGTGGTAAAAATCCGATAAGGATCGATTCCGGAGCCTGAATGGCG
AATGGACGCGCCCTGTAGCGGCGCA
TTAAGCGCGGGGTGTGGTGTGTACGCGCACGTGACCGCTACACTTGCACGCG
CCTAGCGCCGCTCCTTTTCGCTTC
TTCCCTTCCTTTCTCGCCACGTTTCGCGGCTTTCCCGCTCAAGCTCTAAATCGGGG
GCTCCCTTTAGGGTTCOGATTTAG
TGCTTTACGGCACCTCGACCCCAAAAACTTGATTAGGGTGATGGTTCACGTAGT
GGGCCATCGCCCTGATAGACGGTTT
TTGCGCCTTTGACGTTGGAGTCCACGTTCTTTAATAGTGGACTCTTGTTCCAAACT
GGAACAACACTCAACCCATATGTCG
GTCTATTCTTTGATTTTATAAGGGATTTTGCGGATTTCGGCCTATTGGTTAAAAAA
TGAGCTGATTTTAAACAAAAATTTAA
CGCGAATTTTAAACAAAAATTTAAACGCTTACAATTCGCGCTGTGTACCTTCTGAGG
CGGAAAGAACAGCTGTGGAATGTG
TGTGAGTTAGGGTGTGGAAAGTCCCGAGGCTCCCCAGCAGGCAGAAAGTATGCAA
AGCATGCATCTCAATTAGTCAGCAAC
CAGGTGTGGAAAGTCCCGAGGCTCCCCAGCAGGCAGAAAGTATGCAAAGCATGCA
TCTCAATTAGTCAGCAACCATAGTTC
CGCCCTAACTCCGCGCCATCCGCGCCCTAACTCCGCGCAGTTCCGCGCCATTCTCC
GCCCATGGCTGACTAATTTTTTTT
ATTTATGCAGAGGCCGAGGCCGCTCGGCTCTGAGCTATTCCAGAAGTAGTGAG
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CAGACAATCGGCTGCTCTGATGCCG
CCGTGTTCCGGCTGTGAGCGCAGGGGCGCCCGGTTCTTTTGTCAAGACCGACCT
GTCCGGTGCCCTGAATGAACTGCAG
GACGAGGCAGCGCGGCTATCGTGGCTGGCCACGACGGGCGTTTCTTGCGCAGCT
GTGCTCGACGTTGTCACTGAAGCGGG
AAGGGAAGTGGCTGCTATTGGCGAAAGTGCAGGGGCGAGGATCTCCTGTCTCATCTCAC
CTTGCTCCTGCCGAGAAAGTATCCA
TCATGGCTGATGCAATCGCGGCTGCATACGCTTGATCCGGCTACCTGCCCCATT
CGACCAACCAAGCGAAACATCGCATC
GAGCGAGCAGCTACTCGGATGGAAGCCGGTCTTGTCGATCAGGATGATCTGGAC
GAAGAGCATCAGGGGCTCGCGCCAGC
CGAACTGTTGCGCAAGGCTCAAGGCGCGCATGCCGACGGCGAGGATCTCGTCGT
GACCCATGGCGATGCCTGCTTGCCGA
ATATCATGGTGGAAATGGCCGCTTTTCTGGATTATCGACTGTGGCCGGCTGGG
TGTGGCGGACCGCTATCAGGACATA
GCGTTGGCTACCCGTGATATTGCTGAAGAGCTTGGCGGCGAATGGGCTGACCGCT
TCTCTGCTGCTTTACGGTATCGCGC
TCCGATTCGCAAGCGCATCGCTTCTATCGCCTTCTTGACGAGTTCTTCTGAGCG
GGACTCTGGGGTTCGAAATGACCGA
CCAAGCGACGCCAACTGCCATCAGATGGCCGCAATAAAATATCTTTATTTTC
ATTACATCTGTGTGTGGTTTTTGTGTGAAGATCCGCGTATGGTGCACCTCTC-

Figure 7B

AGTACAATCTGCTCTGATGCGCATAGTTAAGCCAGCCCGACACCGCCAA
 CACCCGCTGACGCGCCCTGACGGGCTTGCTCTGCCCGCATCCGCTTACAGACA
 AGCTGTGACCGCTCTCCGGGAGCTGC
 ATGTGTACAGAGGTTTTCACGCTCATCCGAAACGCGCGAGACGAAAGGGCCTCG
 TGATACGCTATTTTTATAGGTTAA
 TGTGTCATGATAATAATGGTTTCTTAGACGTCAGGTGGCACTTTTCGGGGAAATGTG
 CGCGGAACCCCTATTTGTTATTTT
 TCTAAATACATTCAAATATGTATCCGCTCATGAGACAATAACCTGATAAATGCT
 TCAATAATATTGAAAAAGGAAGAGT
 ATGAGTATTCACACATTTCCGCTGTCGCCCTTATCCCTTTTTTGCGGCATTTTGCCCT
 TCCGTGTTTTGCTCACCCAGAAAC
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 CGAACTGGATCTCAACAGCGGTAAGA
 TCCTTGAGAGTTTTCGCCCGGAAAGCTTTTCCAATGATGAGCACTTTTAAAGT
 TCTGCTATGTGGCGCGGTATTATCC
 CGTATTGACGCGCGGCAAGAGCAACTCGGTGCGCGCATACACTATTCTCAGAATG
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 AGAAAAGCATCTTACGGATGGCATGACAGTAAGAGAATTATGCAGTGTGCCATA
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 ACTTACTCTGACAACGATCGGAGGACCGAAGGAGCTAACCGCTTTTTTGACACA
 CATGGGGGATCATGTAACTCGCCTT
 GATCGTTGGGAACCGGAGCTGAATGAAGCCATACCAAACGACGAGCGTGACACC
 ACGATGCCCTGTAGCAATGGCAACAAC
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 CAGCGGTGCGGCTGAACGGGGGTTT
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 ATCCGGTAAAGCGCAGGGTCGGAAACAGGAGCGCACGAGGGAGCTTCCAGG
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 CGTCTGATTTTTGTGATGCTCGTCAG
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Figure 7C

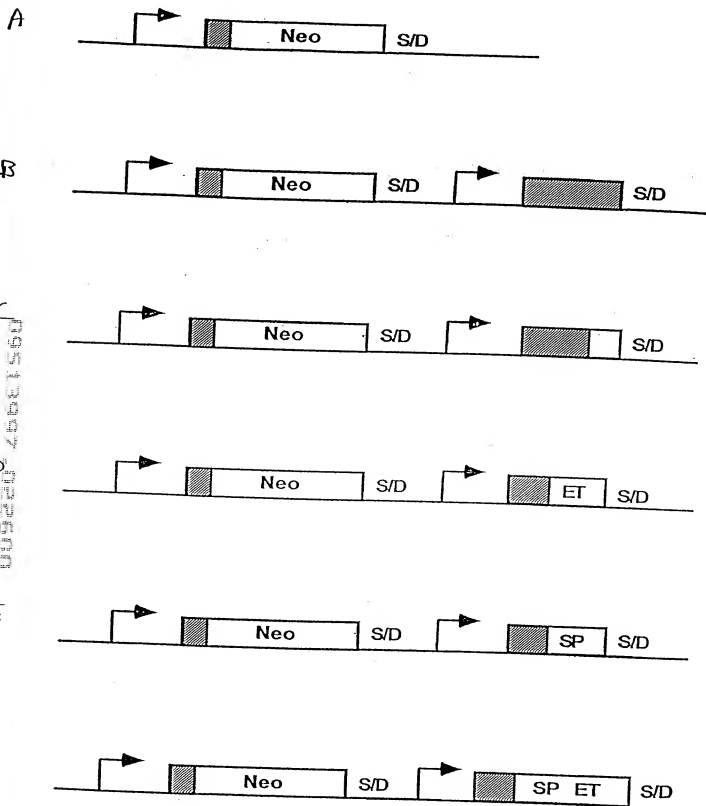
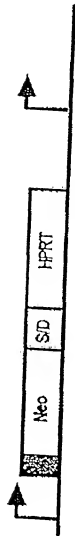


FIGURE 8

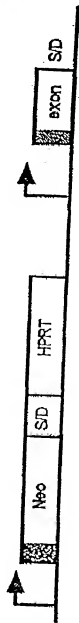
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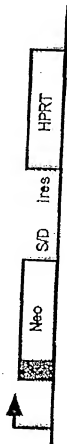
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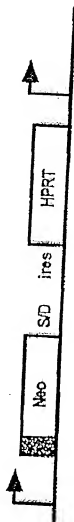
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120



4.



FIGURE 9

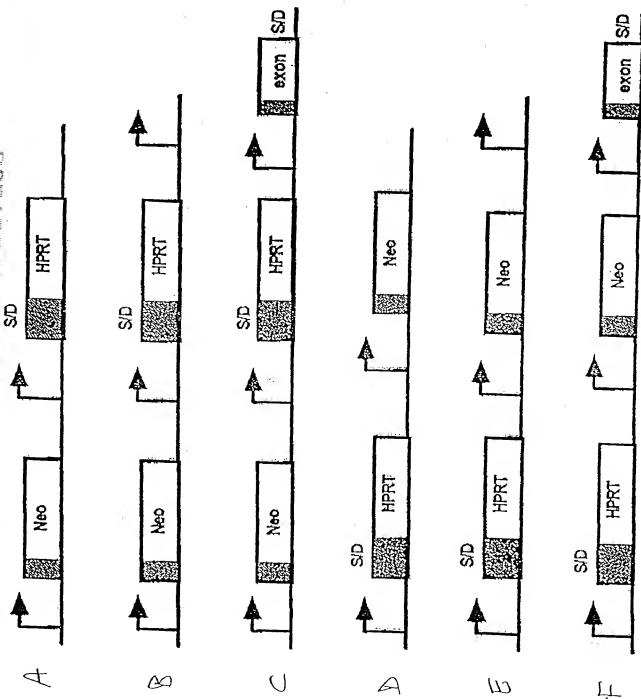


FIGURE 10

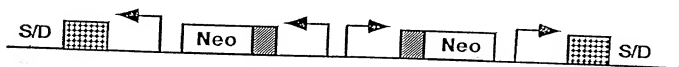
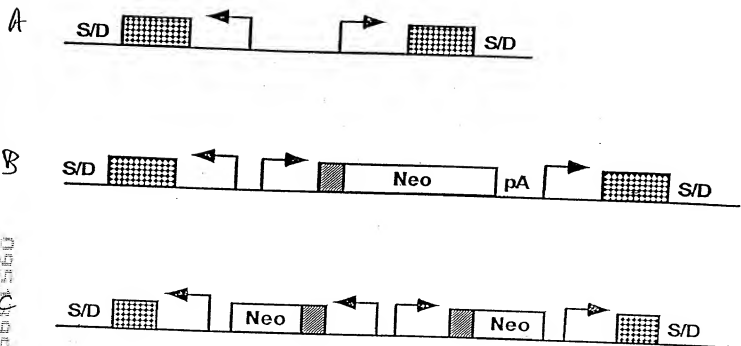
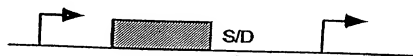
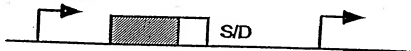


FIGURE 11

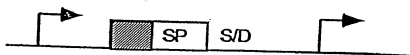
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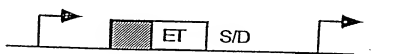
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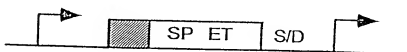
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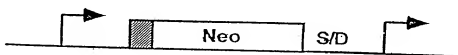
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G

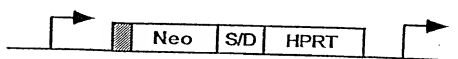


FIGURE 12

09513997.022600

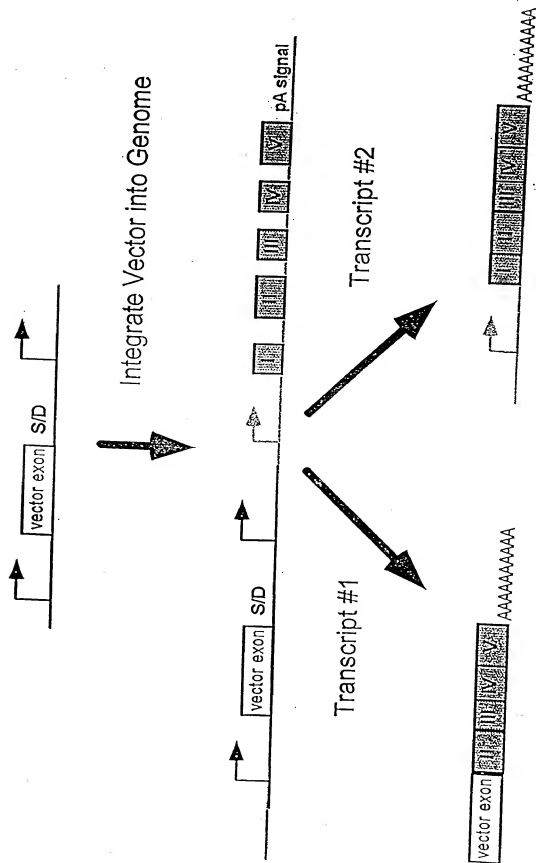


FIGURE 13

09513907.022600

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TTAGTTTCATAGCCCATATATGGAGTTCCGGCTTACATAACTTACGGTAAATGGCCCGGCTGGC
TGAACGGCCAAACGACCCCGCCATTGACGTCATAATGACGTATGTTCCCATAGTAAACGCGCA
ATAGGGACCTTTCCATTGACGCTCAATGGGTGGAGTATTACGGCTAACTGCCCATCTGGCAGTA
CATCAAGTGTATCATATGCCAAAGTCCGCGCCCTATTGACGTCGAATGACGTTAAATGGCCCGC
TGGCATTATGCCCCAGTACATGACCTTACGGGACTTTCTACTCTGGACATGACATCTACGGTTT
TACTCGCTATTACCATGGTGATGGGTTTTGGCAGTACACCAATGGGCGTGGATACGGGTTTT
GACTCAGGGGATTTCCAAATGTCGTAACCACTGCGATGCCCGGCCGTTTGTATTGGCCACCAA
AATCAACGGGACTTTCCAAATGTCGTAACCACTGCGATGCCCGGCCGTTTGTATTGGCCACCAA
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CACTAGAAGCTTTATTGGCGTATGTTATCAAGTTAAATTGCTAACCGCAGTCAGTGCITCTGA
CACAACAGTCTCGAACTTAAGCTGCAGTGACTCTCTTAATocacatggctcagtgagtgatGATCTA
GCGCTATATGCGGTTGATGCAATTTCTATGGCGACCCGTTCTCGGAGCAGCTGTCCGACCGGTTT
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ACCACAACCGCTCTGTGGTCTCTACGCGGACGCGCATCGTGGCCGCGATCACCGCGCGCCACA
GGTGGGTTGTCTGGCGCCTATATCGCGGACATCAACGATGGGGAAGATCGGGCTCGGACTTC
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CTCATGTTTGAACGCTTATCATGCGAGATCCTGAGCTTGTATGGTGCACTCTCAGTACCAATT
GCTCTGCTGCGCAGATGTTAAGCCAGTATCTGCTCCCTGCTTGTGTGTGGAGTCTGCTGAGT
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GCATGCCGATTTGGTGGAAGTAAGGTGGTACGATCGTGCCCTTATTAGGAAGGCAACAGCAGG
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ACAAGATGCAAGTGAACAAAAATGCTTTATTGTGAAATTTGATGAGTTTGGACAAACCCACA
ACCAATATAAGCTGCAATAAACAACTGTTAATGTAATTTGATGATGATTTGCTTTATTGTTA
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CGCGCGGTTGGTGGTGTACGCGCACGTGACCGCTACACTTGGCAGCGCCCTAGCGCGCGCTCC
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CCAGCAGGCAAGATGATGCAAAAGCATGCATCTCAATTAGTCAGCAACAGGTTGGAAAGT
CCCCAGGCTCCCAAGCAGGCAAGTATGCAAAAGCATGCATCTCAATTAGTCAGCAACCCATA-

FIGURE 14A

CTATTGGGCGAAGTGCCGGGGCAGGATCTCTGTGATCTCACTTGTCTCTGCGGAGAAAAGTA
 TCCATCATGGCTGATGCAATGCGGGGCTGCATACTGCTTGCATCCGGCTACCTGCCCATTCGAC
 CACCAAGCGAAACATCGCATCGAGCGAGCACGTACTCGGATGGAAGCCGGTCTTGTGATCA
 GGATGATCTGGACGAAGAGCATCAGGGGCTCGCGCCAGCCGAAGTGTTCGCCAGGCTCAAGG
 CGCGCATGCCCGACGGCGAGGATCTCGTCTGACCCATGGCGATGCTGCTGCCGAATATCA
 TGGTGGAAAATGCGCGCTTTTCTGGATTCAATCGACTGTGGCCGGCTGGGTGTGGCGGACCGCT
 ATCAGGACATAGCGTTGGCTACCGGTGATATTGCTGAAGAGCTTGGCGCGGAATGGGCTGAC
 CGCTTCCTCGTGTCTTAACGGTATCGCGGCTCCCGATTTCGAGCGCATCGCCTTCTATCGCCTTC
 TTGACGAGGcaTTTgatggagtagCGGCCGCTAACCTGGTGTGCTGACTAATTGAGATGCATGCTTT
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 GCTGGTTCTTTCCGCTCAGAAAGGTACACAGGCGAAAATTGTAAGCGTTAATATTTTGTAAAA
 TTGCGTTAAATTTTGTAAATCAGCTCATTTTTAAOCAAATAGGCCGAAATCGGCAAAATC
 CTTTATAAAATCAAAAGAATAGACCGAGATAGGGTTGAGTGTGTGCCAGTTTGGAAACAAGAG
 TCCACTATTAAGAAACGTGGACTCCAACGTCAAAGGGCGAAAAACCGTCTATCAGGGCGATG
 GCCAC

FIGURE 15B

00513097-022600

GATCTTCAATATTGGCCATTAGCCATATTATTCATTGGTATATAGCATAAATCAATATTGGCT
ATTGGCCATTGTCATCGTTGATCTATATCATAATATGACATTATATTGGCTCATGTGCCAAT
ATGACCGCCATGTTGGCCATTGATTATTGACTAGTTATTAATAGTAATCAATTACGGGGTCAAT
AGTTTCATAGCCCATATATGAGGTTCCGGTITACATAAATGACGTAATACGGCCGCTGGCTG
ACCGCCCAACGACCCCGGCCATTGACGTCAATAATGACGTAATGTTCCCATAGTAACCGCCAAAT
AGGGACITTTCCATTGACGTCATATGGGTGGAGTATTACGGTAAGCACTGCCACITGGCAGTACA
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CATCGCTATTACCATGTGTATGCGGTTTGGCAGTACACCAATGGGCGTGGATAGCGGTTTGA
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CAGCCCGACCGCTCGCGCTTATCCGGTAACTATCGTCTTGAGTCCAAACCGGTAAGACACGAC
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FIGURE 16A

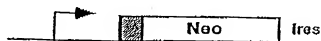
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FIGURE 16B

A



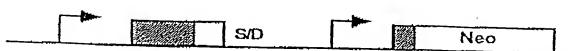
B



C



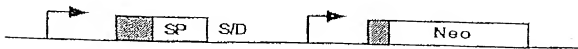
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E



F



G

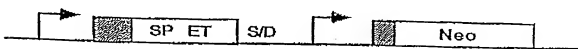


Figure 17

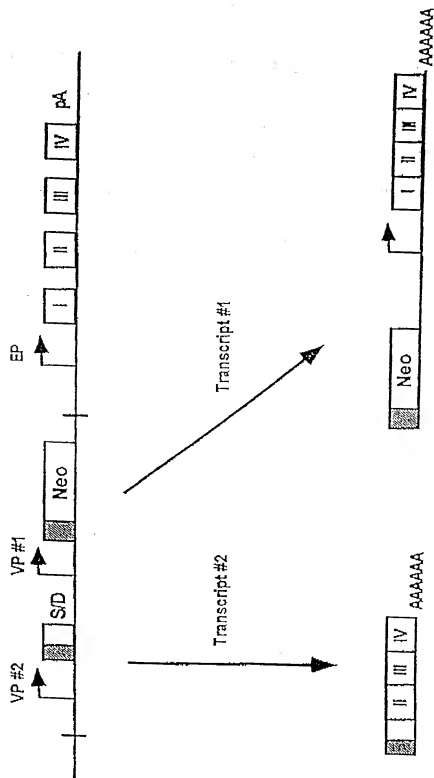


Figure 18

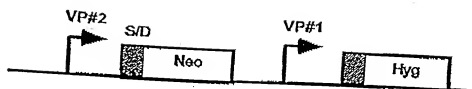


Figure 18

09513997-022600

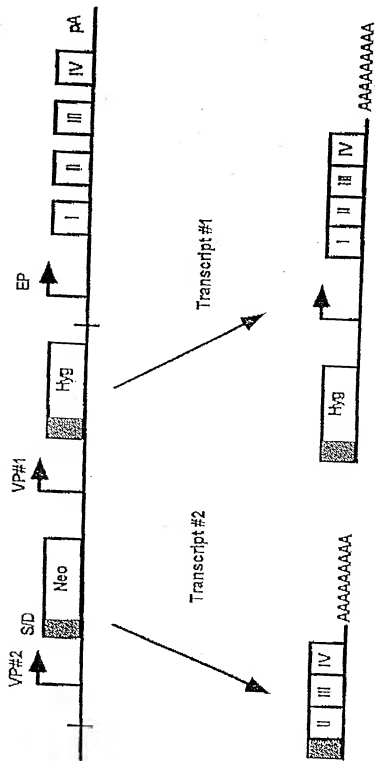


Figure 20A

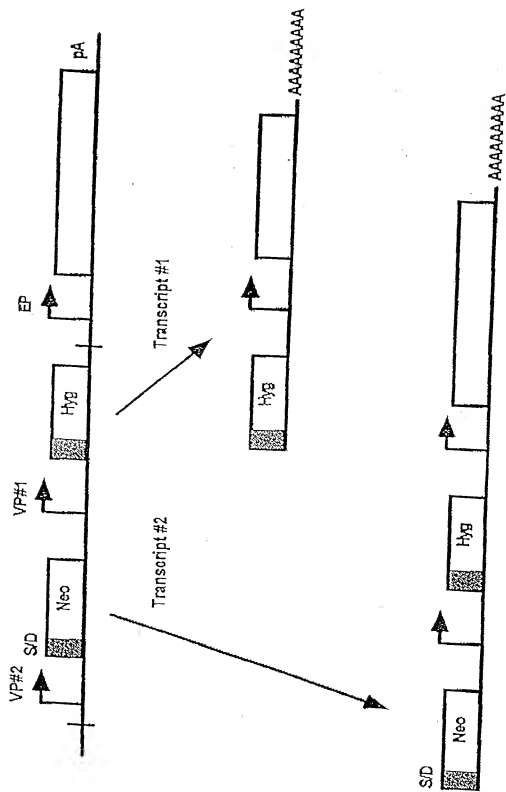


Figure 20B

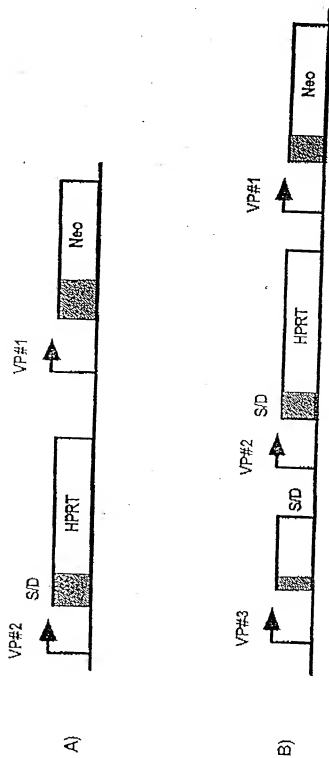


Figure 21

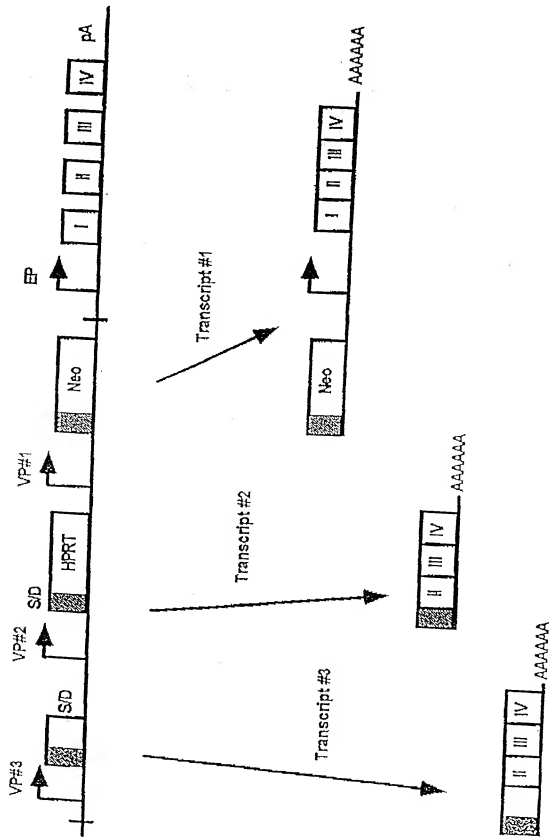
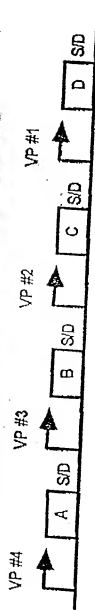
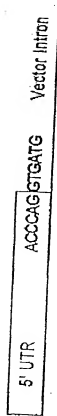


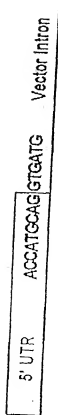
Figure 22



A) Exon A and Flanking Intron



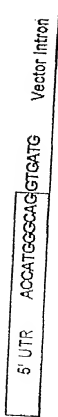
B) Exon B and Flanking Intron



C) Exon C and Flanking Intron



D) Exon D and Flanking Intron



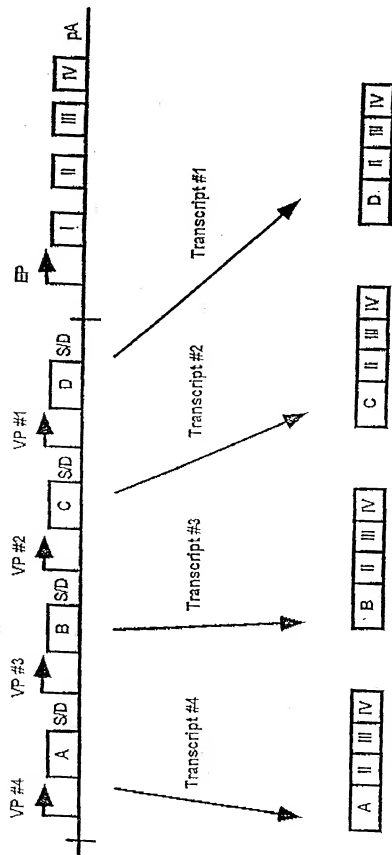


Figure 24

09513097-022600

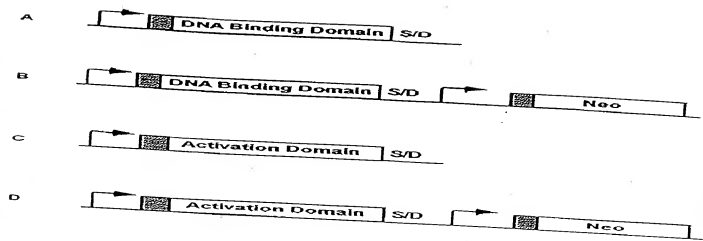


FIGURE 25

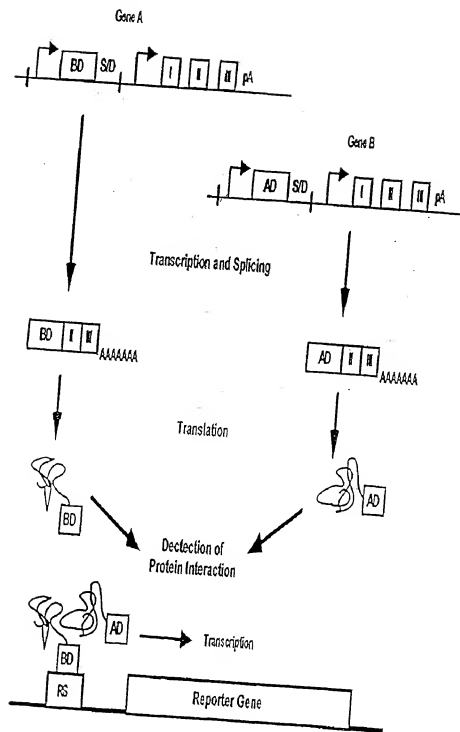


Figure 26

Figure 1 consists of five panels (A-E) showing schematic representations of genetic constructs. Each construct is represented as a horizontal line with various elements in boxes and arrows. Black squares represent the origin of replication (oriP) and the selectable marker (cat). The elements are as follows:

- Panel A:** oriP, promoter (arrow), cat gene (hatched box), SD sequence (hatched box).
- Panel B:** oriP, promoter (arrow), CHFR gene (white box), pA signal (line), second promoter (arrow), cat gene (hatched box), SD sequence (hatched box).
- Panel C:** oriP, promoter (arrow), CHFR gene (white box), pA signal (line), Puro gene (white box), second pA signal (line), third promoter (arrow), cat gene (hatched box), SD sequence (hatched box).
- Panel D:** oriP, promoter (arrow), CHFR gene (white box), pA signal (line), Puro gene (white box), third promoter (arrow), cat gene (hatched box), SD sequence (hatched box).
- Panel E:** oriP, promoter (arrow), CHFR gene (white box), pA signal (line), SD sequence (hatched box), HPRT gene (white box), fourth promoter (arrow), cat gene (hatched box), Puro gene (white box).

FIGURE 27

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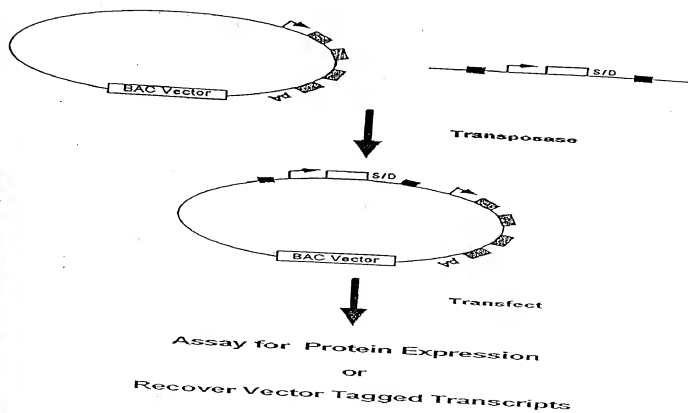


FIGURE 28

00513997-02600

CACCTAAATTGTAAGCGTTAATATTTTGTAAAAATTCGCGTTAAATTTTGT
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AAATCAAAAAGAAATAGACCGAGATAGGGTTGAGTGTGTTCAGTTTGGAA
CAAGAGTCCCAATTAAAGAACCCTGGACTCCAACGTCAAAGGGCGAAAAA
CCGTCTATCAGGGCGATGGCCCACTACGTGAACCATCACCTAATCAAGTT
TTTTGGGTCGAGGTGCCGTAAGCACTAAATCGGAACCTAAAGGGAGC
CCCCGATTTAGAGCTTGACGGGGAAGCGGCGCTAGGGCGTAGGCAAGTGTACG
AGGGAAGAAAGCGAAAGGAGCGGGCGCTAGGGCGTGGCAAGTGTACG
GTCACGTGCGCGTAACCAACACCGCGCGCTTAATGCGCGCTACAG
GGCGCTTCCCATTTGCCATTACGGCTGCGCAACTGTTGGGAAGGGCGATC
GGTGGCGGCTCTTCGCTATTACGCCAGCTGGCGAAAGGGGATGTGCTG
CAAGCGAATTAAGTTGGGTAACGCCAGGGTTTCCCACTCACGACGTTGTA
AAACGACGGCCAGTAATTGTAATACGACTCACTATAGGGCGAATTTGGT
ACAattcaattcgtcgacctgaaattctacgggttagggaggcgctttcccaaggcagctctggagcatgcgttag
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ATAAATCAATATTGGCTATTGGCCATTGCATACGTTGTATCTATATCATAAT
ATGTACATTTATATTGGCTCATGTCCAATATGACGCCCATGTTGGCATTGA
TTATTGACTAGTTATTAATAGTAATCAATTACGGGGTCAATTAGTTTCATTAGC
CCATATATGGAGTTCGCGTTACATAAATTACGGTAAATGGCCGCGCTGGC
TGACCGCCCAACGACCCCCGCCCCATTGACGTCAATAATGACGTATGTTC
ATAGTAACGCCAATAGGGACTTTCATTGACGTCAATGGGTGGAGTATTTA
CGGTAACCTGCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTCCG
CCCCCTATTGACGTCAATGACGGTAATGGCCGCTGGCATTATGCCCAAG
TACATGACCTTACGGGACTTTCCTACTTGGCAGTACATCTACGTATTATGTC
ATCGCTATTACCATGGTGATGCGGTTTTGGCAGTACACCAATGGGCGTGGTA
TAGCGGTTTGACTACCGGGGATTTCCAAGTCTCCACCCCTTACGCTCAAT
GGGAGTTTGTTTTGGCACCAAAATCAACGGGACTTTCCAAAATGTCTGTAAC
AACTGCGATCGCCCCCGGTTGACGCAATGGGCGGTAGGCGGTGTACGG
TGGGAGGTCTATATAAGCAGAGCTGTTTGTAGTGAACCGTCAGATCACTAGA
AGCTTTATTGCGGTAGTTTATCACAGTTAAATTGCTAACGCAAGTCAGTGCT
TCTGACACAACAGCTCTCGAATTAAGCTGCAGTACTCTCTTaatataaccacgctac
aggtagtactgcGATCTGCTACCTTAAGagaggcctatctggccagttgacagtcgaagaaagagtttaa
GAGAGCCGAAACAAAGCGCTCATGAGCCCGAAGTGGCGAGCCGATCTCTCC
CCATCGGTGATGTCGGCGATATAGGCGCGACGAACCGCACCTGTGGCGCC-

FIGURE 29A

09513997.022600

GGTGATGCCGGCCACGATGCGTCCGGCGTAGAGGATCCACAGGACGGGTG
TGGTCGCCATGATCCGCTAGTCGATAGTGGCTCCAAGTAGCGAAGCGGAGC
AGGACTGGGCGGCGGCCAAAGCGGTGCGACAGTGTCTCCGAGAACGGGTGC
GCATAGAAATTGCATCAACGCATATAGCGTAGTCTTGTCTGATGAGTCGAG
GCCGCCACCGCGGTGGAGCTCCAGCTTTTGTCCCTTTAGTGAGGGTTAAT
TTCGAGCTTGGCTAATCATGGTCATAGCTGTTTCTGTGTGAAATTGTTA
TCCGCTCACAATTCCACACAACATACGAGCGCGAAGCATAAAGTGTAAAG
CCTGGGGTGCCTAATGAGTGAGCTAACTCACATTAATTGCGTTGCGCTCAC
TGCCCGCTTTCAGTCGGGAAACCTGTGTCGCCAGTGCATTAATGAATCG
GCCAACCGCGGGGAGAGGCGGTTTGCCTATTGGCGCTCTCCGCTTCCT
CGCTCACTGACTCGCTGCGCTCGGTGCTTCCGCTGCGGCGAGCGGTATCAG
CTCACTCAAAGCGGTAATACGGTATCCACAGAATACGGGGATAACGCA
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AGGCCGCGTGTGCTGGCGTTTTTCCATAGGCTCCGCCCTCGACGAGCATC
ACAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAA
AGATACCAAGCGTTTTCCCTTGAAGCTCCCTCGTGCCTCTCCTGTTCCG
ACCTGCCGTTACCGGATACCTGTCCGCTTTTCCCTTCGGGAAGCGGTG
GCGCTTTCTCATAGTCAACGCTGTAGGTATCTCAGTTCGGTGTAGGTGCTT
CGCTCAAAGCTGGGCTGTGTGCACGAACCCCGTTTCAGCCCGACCGGTG
GCCTATCCGGTAACATATCGTCTTGAGTCCAACCCGGTAAGACGAGCATC
TCGCCACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGT
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CACGTTAAGGGATTTTGGTCATGAGATTATCAAAAAGGATCTTACCTAGA
TCCTTTAAATTAATAATGAAGTTTTAAATCAATCTAAAGTATATATGAGT
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AACTACGATACGGGAGGGCTTACCATCTGGCCCCAGTGTGCAATGATACC
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CGTTGTCAAGAGTAAGTTGGCCGCACTGTTATCACTCATGTTTATGGCAGC
ACTGCATAATTCTCTTACTGTCATGCCATCCGTAAGATGCTTTTCTGTGACT
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CTGATCTTCAGCATCTTTACTTTACCAGCGTTTCTGGGTGAGCAAAAAAC
AGGAAGGCAAAATGCCGCAAAAAAGGGAATAAGGCGACACGGAAATGT
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ATTGTCTCATGAGCGGATACATATTTGAATGTTATTAGAAAAATAAACAA
TAGGGGTTCCGCGCACATTTCCCGAAAAAGTC

Figure 29B

09513907.02600

GATCTTCAATATTGGCCATTAGCCATATTATTCATTGGTTATATAGCATAAA
TCAATATTGGCTATTGGCCATTGCATACGTTGTATCTATATCATAATATGTA
CATTATATTGGCTATGTCCTAATATGACCGCCATGTTGGCATTGATTATTG
ACTAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATAT
ATGGAGTTCGCGGTTACATAACTTACGGTAAATGGCCCGCTGGCTGACCG
CCCAACGACCCCGCCCATTTGACGTCAATAATGACGTATGTTCCCATAGTA
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Figure 30A

00513997.026000

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TGGGCGGCGGCCAAAGCGGTGCGACAGTGTCTCGGAGAACGGGTGCGCATAG
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CCGCGTTGTCTGGCGTTTTCCATAGGCTCCGCCCCCTGACGAGCATCACAA
AAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAGA
TACCAAGCGTTTTCCCTCGGAAGCTCCCTCGTGGCTCTCTCTGTCTCCGACC
CTGCCGCTTACCGGATACCTGTCCGCTTTCTCCCTTCGGGAAGCGTGGCG
TTCCTCATAGCTACGCTGTAGGTATCTCAGTTCCGTTGTAGGTCTGTGGCT
CCAAGCTGGGTGTGTGCACGAACCCCGCTTACGCCGACCGCTGCGCCT
TATCCGCTAACTATCGTCTTGTAGTCCAACCCGGTAAGACACGACTTATCGC
CACTGGCAGCAGCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGC
GGTGTACAGAGTTCTTGAAGTGGTGGCCTAACTACGGCTACACTAGAGAG
GACAGTATTTGGTATCTCGCTCTGTCTGAAGCCAGTTACCTTCGGAATAAAG
AGTTGGTAGCTCTTGATCCGGCAAAACACCCGCTGGTAGCGGTGTTT

FIGURE 30B

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TTTTTGTTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAA
GATCCITTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAAACGAAAACTCA
CGTTAAGGGATTTTGGTCATGAGATTATCAAAAAGGATCTTACCTAGATC
CTTTTATCGGTGTGAAATACCGCACAGATGCGTAAGGAGAAAAATACCGCAT
CAGGAAAATTGTAAGCGTTAATAATTCAAGAAGACTCGTCAAGAAGGCGAT
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AACGCTATGTCTGATAGCGGTCCGCCACACCCAGCCGCCACAGTCGATG
AATCCAGAAAAAGCGGCCATTTTCCACCATGATTCGGCAAGCAGGCATCG
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FIGURE 30C

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FIGURE 31C

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Figure 32B

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FIGURE 33A

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Figure 33C

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AGGGCGATGGCCAC

09513957.022600

FIGURE 33D

tcaacgacaggagcacgatcatcgccacccgtggccaggacccaacgtcgcccgagatcgcccgctgctggctgg
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 ctggagtggtgaactcgttagcgagggtccgcgcgcttccattcaggtcgaggtggccggctccatgacgcgcgacg
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00513097.02660

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Figure 34B

GATCTTCAATATTGGCCATTAGCCATATTATTCATTGGTTATATAGCATAAA
 TCAATATTGGCTATTGGCCATTGCATACGTTGTATCTATATCATAATATGTA
 CATTATATTGGCTCATGTCCAATATGACCGCATGTGGCATTGATTATTG
 ACTAGTTATTAATAGTAATCAATTACGGGGTCATTAGTTCATAGCCCATAT
 ATGGAGTTCCGCGTTACATAAATTACGGTAAATGGCCCGCCTGGCTGACCG
 CCAACGACCCCGCCCATGACGCTCAATAATGACGTATGTTCCCATAGTA
 ACGCCAATAGGGACTTTCCATTGACGTCAATGGGTGGAGTATTTACGGTAA
 ACTGCCCACTTGGCAGTACATCAAGTGTATCATATGCCAAGTCCGCCCCCT
 ATTGACGCTCAATGACGGTAAATGGCCCGCCTGGCATTATGCCAGTACATG
 ACCTTACGGGACTTTTCTACTTGGCAGTACATCTACGTATTAGTCATCGCT
 ATTACCATTGGTGTATGCGGTTTGGCAGTACACCAATGGGCGTGGATAGCG
 GTTGTACTCACGGGGATTCCAAGTCTCCACCCCATTTGACGCTAATGGGAG
 TTTGTTTGGCACCAAAATCAACGGGACTTTCCAAAATGTCGTAACAACTG
 CGATCGCCCGCCCCGTTGACGCAATGGGCGGTAGGCGTGTACGGTGGGA
 GGCTATATAAGCAGAGCTcgtttagtaacgcgcagatcactgaatttcagacactcattgaacggc
 gatagcgcctcctgcagaactgctttagtgacaactatCGATTTCCACACATTATACGAGCCGAT
 GTTAATTGTCAACAGCTCATGTCATGACGTCCCGGGAGCAGACAAGCCCCGacc
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 AAGAGAGGCCATCTCTGGCCAGTTAGCAGTCGAAGAAAGTAAAGAGA
 GCCGAAACAAGCGCTCATGAGCCCGAAGTGGCGGAGCGGCTTTCCCAT
 CGGTGATGTCGGCGATATAGGCGCCAGCAACCGCACTGTGGCGCCGGTG
 ATGCCGGCCACGATGCGTCCGGCGTAGAGGATCCACAGGACGGGTGTGGT
 CGCCATGATCGCGTAGTCGATAGTGGCTCCAAGTAGCGAAGCAGGAGGA
 CTGGGCGGGCGCCAAAGCGGTCTGGACAGTGTCTCCGAGAACGGGTGCGCAT
 AGAAATTGCATCAACGCATATAGCGCTAGATCCTTTGCTAGAGTCGAGATCT
 GTCGAGCCATGTGACAAAAGGCCAGCAAAAGGCCAGGAACCGTAAAAAG
 GCCGCGTTGCTGGCGTTTTTCCATAGGCTCCGCCCCCTGACGAGCATCAC
 AAAAAATCGACGCTCAAGTCAGAGGTGGCGAAACCCGACAGGACTATAAAG
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 GCTTTCTCATAGCTACGCTGTAGGTATCTCAGTTCCGTTGATAGTCTGCTTC
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 CTTATCCGGTAACTATCGTCTTGTAGTCCAACCCGGTAAGACACGACTATC
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 GGACAGTATTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGGAATAA
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 CGTTAAGGGATTTTGGTCATGAGATTATCAAAAAGGATCTTACCTAGATC
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FIGURE 35A

ggctctgacaaaaaacggcgcccccgcgctgacagcgggaacacggcgcatcagagcagcgattgtctgtgt
 gccagctcatagcgaatagcctctccaccaagcggcgccggagaaacctgctgcaatccatctgtttcaatcatgcgaaac
 gatccctcatctgtctctgtatcagagcttgatccctgcgcatcagatcttggcgccgagaaagccatccagtttactt
 gcagggtgttcaacctaccagatAAAAGTGTCTCATCTATTGGAACACGTTCAATTCTGAG
 GCGGAAAGAACACAGCTGTGGAATGTGTGTCAAGTTAGGGTGTGGAAAGTCC
 CCAGGCTCCCCAGCAGGCAGAAGTATGCAAAGCATGCATCTCAATTAGTCA
 GCAACCAGGTGTGGAAAGTCCCCAGGCTCCCCAGCAGGCAGAAGTATGCA
 AAGCATGCATCTCAATTAGTCAGCAACCATAGTCCCGCCCTAACTCCGCC
 CATCCGCCCTTAACCTCCGCCAGTTCGCCCCATTCTCCGCCCATGGGT
 ACTAATTTTTTTTTTATTTATGACAGAGCCGAGGCCGCTCGGCCTCTGAGCT
 ATTCAGAGAAGTGTGAGGAGGCTTTTTTGGAGGCCTAGGCTTTTGTAAAAA
 GCTTGATTCTTCTGACACAACAGTCTCGAATTAAGGCTAGAGCCACCATG
 ATTGAACAAGATGGATTGCAACGAGGTTCTCCGCCGCTTGGGTGGAGAG
 GCTATTCCGCTATGACTGGGCACAACAGACAATCGGCTGCTCTGATGCCGC
 CGTGTTCGGCTGTACAGCGCAGGGGCGCCCGGTTCTTTTGTCAAGACCGA
 CCGTGTCCGGTGGCCTGAATGAACCTGACGACGAGGCAGCGCGCTATCGT
 GGCTGGCCACGACGGGCGTTCTTTCGCGAGCTGTGCTCGACGTTGTCACTG
 AAGCGGGAAGGAGCTGGCTGCTATTGGCGGAAGTGCCGGGCGAGGATCTC
 CTGTCTATCTCACTTGTCTTCCGCGAGAAAGTATCCATCATGGCTGATGCA
 ATGCGGGCGGTGCATACGCTTGATCCGGCTACCTGCCATTGCCACCAA
 GCGAAACATCGCATCGACGAGCAGCTACTCGGATGGAAGCCGGTCTTGT
 CGATCAGGATGATCTGGACGAAGAGCATCAGGGGCTCGCGCCACGCCGAAC
 TGTTCCGCCAGGCTCAAGGCGCGCATGCCGACGCGCGAGTCTCGTCTGT
 ACCCATGGCGATGCCTGCTTGCCGAATATCATGGTGAAAAATGGCCGCTTT
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 CTTTCCACACCCTAACTGACACACATTCCACAGCTGGTTCTTTCCGCCTCAG
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 AGTTTGAACAAAGAGTCCACTATTAAAGAACGTGGACTCCAACGTCAAAG
 GGCGAAAAACCGTCTATCAGGGCGATGGCCAC

Figure 35B

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FIGURE 36

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GATCTTCAATATTGGCCATTAGCCATATTATTCATTGGTTATATAGCATAAA
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FIGURE 37A

0013907 022600

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CCAAAGCTGGGCTGTGTGCACGAACCCCTGTTACGCCGACCGCTGCGCT
TATCCGGTAAGTATCGTCTTGTAGTCCAACCCGGTAAGACACAGCTTATCGC
CACTGGCAGCAGCCACTGGTAACAGGATTAGCAGAGCGAGGTATGTAGGC
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GACAGTATTTTGGTATCTGCGCTCTGCTGAAGCCAGTTACCTTCGAAAAAG
AGTTGGTAGCTCTTGATCCGGAACAAACCACCGCTGGTAGCGGTGGTT-

FIGURE 37B

TTTTGTGTTGCAAGCAGCAGATTACGCGCAGAAAAAAGGATCTCAAGAA
 GATCCTTTGATCTTTTCTACGGGGTCTGACGCTCAGTGGAAACGAAAACTCA
 CGTTAAGGGATTTTGGTCATGAGATTATCAAAAAGGATCTTCACTAGATC
 CTTTTATCGGTGTGAAATACCGCACAGATGCGTAAGGAGAAAAATACCGCAT
 CAGGAAATTTGAAGCGTTAATAATTACAGAAGAACTCGTCAAGAAGGCGAT
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 TTCGTTGGTGGTGAATGGGCAGGTAGCCGATCAAGCGTATGCAAGCCG
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 GTTAAAAATTCGCGTTAAATTTTGTAAATCAGCTCATTTTTTAACCAATAG
 GCCGAAATCGGAAAAATCCCTATAAATCAAAAGAAATAGCCGAGATGGA
 GTTGAGTGTGTTCAGTTTGAACAAGAGTCCACTATTAAAGAACGTGGA
 CTCCAACGTCAAAGGGCGAAAAACCGTCTATCAGGGCGATGGCCAC

Figure 37C